UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,375	09/08/2003	Werner Heierli	027262-182-D1	9448

27805 7590 11/03/2004

THOMPSON HINE L.L.P.
2000 COURTHOUSE PLAZA , N.E.
10 WEST SECOND STREET
DAYTON, OH 45402

EXAMINER	
CHAPMAN, JEANETTE E	
ART UNIT	**PAPER NUMBER**
3635	

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/657,375	HEIERLI, WERNER
	Examiner	Art Unit
	Chapman E Jeanette	3635

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *01 October 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *10-68* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *50 and 51* is/are allowed.

6)☒ Claim(s) *25,27-30,34-41,45,46,47 and 66-68* is/are rejected.

7)☒ Claim(s) *26,31-33,42-44,48 and 49* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *patent copies with annotations*.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 USC 102 that form the basis for the rejection under this section made in this office action.

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 25,37-39, 41,45,47,66 and 68 are rejected under 35 U.S.C. 102(b) as being anticipated by Monachino (6408581). Monachino et al discloses a method of forming a hybrid arched overfilled bridge comprising:

- Defining a first pathway PL1; see annotations on patent copy;
- Defining a second pathway PL2 spaced above the first: see annotations on patent copy;
- Providing a plurality of precise side elements 32a;
- Erecting the precise side elements in two rows along the first pathway to extend toward the second pathway PL2;
- Casting in place a crown sector element between the two precast side elements to extend from one side element to the other so that the crown sector with the two side elements form a bridge;
- Forming a structural connection or shrinkage joints between/ in the crown sector and the two side elements; see figure 11;
- Figure 11 shows the crown sector with beveled edges

- At some time an place the precast side elements were lifted and set in place in footings 34a;
- Casting in place one or more crown sector elements between two space apart rows fop recast side elements such that the one or more crown sector elements connect at the two space apart rows of side elements to define a bridge over the first pathway;
- Multiple crown sector elements are cast in place and each crown sector element extends along the first pathway for a length that connects multiple precast side elements of each row.

35 USC 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 25, 29, 66-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shall et al (6205717) in view of Monachino. Shall et al discloses a method of forming a hybrid arched overfilled bridge comprising:

- Defining a first pathway PL1; see annotations on patent copy;
- Defining a second pathway PL2 spaced above the first: see annotations on patent copy;
- Providing a plurality of precise side elements 32a;

- Erecting the precise side elements in two rows along the first pathway to extend toward the second pathway PL2;
- Casting in place a crown sector 42 which has a form surface supported by a frame support or reinforcing elements 90;
- Figure 4 shows concrete that has been poured onto the crown sector form surface;
- Placing two footing strips 10 and 12 on each side of the pathway
- Placing overfill material atop at least a portion of the bridge;
- Casting in place one or more crown sector elements between ~~tow~~ two space apart rows ~~fap~~ of recast side elements such that the one or more crown sector elements connect at the two space apart rows of side elements to define a bridge over the first pathway;

Shall lacks casting in place a crown sector element between the two precast said elements to extend from one side element to the other so that the crown sector with the two side elements form a bridge. Monachino discloses a hybrid arched overfilled bridge system structure with two pathways and the crown sector between cast elements. It would have been obvious to one of ordinary skill in the art to modify shall to insert the crown sector as taught by Monachino in order to provide further support for the side elements while providing a structure that is simple to construct

Claims 27,30, 34-35,40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shall et al or Monachino in view of Olsen (4639345). Neither Shall et al or Monachino disclose providing a casting table with a form and pouring concrete mix into the form

surface of the casting table to form the cast side elements. It would have been obvious to fashion/configure the form in the shape that the block or cast elements would assume in order to constructer the intended structure of a bridge or tunnel. See column 6, lines 1-25. One of ordinary skill in the art would have been motivated to employ a casting table with the intended shaped form and pouting the concrete in the form to form the elements of the bridge in with the intended shape as taught by Olsen. Olsen also discloses sealing the ends of the concrete form elements by element 16

Claims 28, 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shall et al or Monachino in view of Olsen and further in view of Mingolla et al(4271555). Olsen discloses the work table with the forms and the concrete poured therein but lacks the moving form surface on the casting table. Mingolla et al discloses a casting table with form. The concrete mass is vibrated to remove entrapped air; the concrete mixture is therefore compacted. It would have been obvious to one of ordinary skill in the art to move the form surface on the casting table in order to remove trapped air in the concrete mass as taught by Mingollo.

Claims 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shall et al in view of Monachino in view of Davidson (2372187) . Davidson discloses waterproofing his side elements and crown sector elements with laminations 22 and 17. it would have been obvious to waterproof these elements in order to weatherproof these elements taught by Davidson.

Claim 26, 31-33, 42-44, 48-49 are objected to as depending upon a rejected base claim but would be considered as allowable if amended to include the base claim and any intervening claims.

Claims 50- 51 is allowable over the prior art of record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chapman E Jeanette whose telephone number is 703-308-1310. The examiner can normally be reached on Mon.-Fri, 8:30-6:00, every other fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Friedman Carl can be reached on 703-308-0839. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

***

Jeanette Chapman
Primary Examiner

US006408581B2

(12) **United States Patent**
Monachino

(10) **Patent No.: US 6,408,581 B2**
(45) **Date of Patent: *Jun. 25, 2002**

PATENT COPIES W/ANNOTATIONS

(54) **FOUNDATION ELEMENT, METHODS FOR THE CONSTRUCTION OF PREFABRICATED STRUCTURES INCLUDING THESE ELEMENTS, PARTICULARLY PREFABRICATED TUNNELS, AND PREFABRICATED STRUCTURES MADE BY THESE METHODS**

(76) Inventor: **Mosé Monachino**, Via A. Doria 5, I-92014, Porto Empedocle (Agrigento) (IT)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **09/908,368**

(22) Filed: **Jul. 18, 2001**

Related U.S. Application Data

(62) Division of application No. 09/230,147, filed on Jan. 19, 1999.

(30) **Foreign Application Priority Data**

Jul. 17, 1996 (IT) AG96A0002
Sep. 30, 1996 (IT) AG96A0003

(51) **Int. Cl.**[7] **E04B 6/16**; E04B 1/32
(52) **U.S. Cl.** **52/247**; 52/295; 52/297; 52/126.6; 52/88; 52/245.08
(58) **Field of Search** 52/295, 296, 297, 52/247, 126.5, 126.6, 126.7, 88, 745.07, 745.08, 742.12

(56) **References Cited**

U.S. PATENT DOCUMENTS

109,886	A	12/1870	Freeman
1,074,268	A	9/1913	Kelly et al.
1,474,808	A	11/1923	Zucco
2,616,149	A	11/1952	Waller
3,195,852	A	7/1965	Lundell
3,286,972	A	11/1966	Jackson
3,397,494	A	8/1968	Waring
3,848,377	A	11/1974	Mori
4,094,110	A	6/1978	Dickens et al.
4,099,360	A	7/1978	Outram
4,817,353	A	4/1989	Woods et al.
4,972,641	A	11/1990	Barrios
4,972,646	A	11/1990	Miller et al.
4,987,707	A	1/1991	Kiselev et al.
5,505,033	A	4/1996	Matsuo et al.
5,524,405	A	6/1996	Byrd
5,533,835	A	7/1996	Angelette
5,586,417	A	12/1996	Henderson et al.

FOREIGN PATENT DOCUMENTS

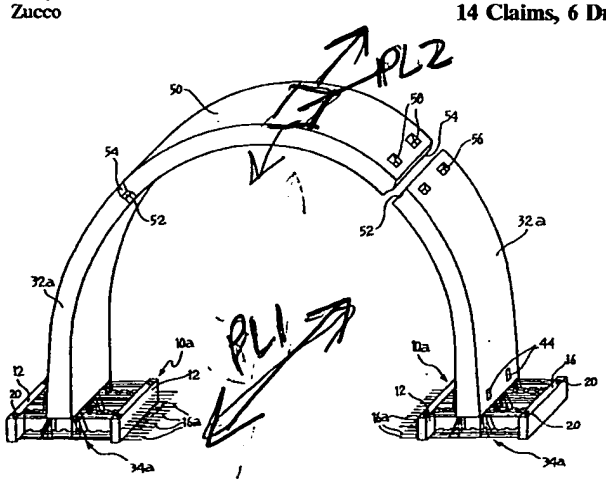
EP	0244890	11/1987
EP	568799	11/1993
FR	2330818	6/1977
WO	9207144	4/1992

Primary Examiner—Carl D. Friedman
Assistant Examiner—Brian E. Glessner
(74) *Attorney, Agent, or Firm*—Hayes Soloway P.C.

(57) **ABSTRACT**

A foundation element in the form of a rigid monolithic prefabricated frame which includes at least two opposite containing side walls and cross-members interconnecting the two side walls so as to form a casting through-cavity between these two walls. The frame is intended to be located on the ground with the interposition of adjustable support devices and is intended to receive a hardenable fluid binder material poured into its through-cavity and adapted to spread onto the ground between this and the side walls and to fill the cavity, encapsulating the cross-members and the iron rods or other connecting members for connecting a superstructure element. Also provided are prefabricated structures including prefabricated tunnels, with foundation elements formed by means of the said prefabricated frames.

14 Claims, 6 Drawing Sheets



PATENT COPY W/ANNOTATIONS

US006205717B1

(12) **United States Patent**
Shall et al.

(10) **Patent No.: US 6,205,717 B1**
(45) **Date of Patent: Mar. 27, 2001**

(54) **BUNKER CONSTRUCTION**

(75) Inventors: **John S. Shall**, Falls Church; **Kim Truong**, Vienna, both of VA (US)

(73) Assignee: **Freyssinet International (STUP)**, Cedex (FR)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/547,219**

(22) Filed: **Apr. 11, 2000**

(51) **Int. Cl.**[7] **E02D 27/00**
(52) **U.S. Cl.** **52/89**; 52/169.6; 52/294; 52/299
(58) **Field of Search** 52/86–89, 169.1, 52/169.6, 292–295, 299; 405/124–127

(56) **References Cited**

U.S. PATENT DOCUMENTS

1,223,266	*	4/1917	Dyer	52/89 X
2,755,630	*	7/1956	Freyssinet	52/169.6
3,173,387	*	3/1965	Cree, Jr.	52/169.6
4,686,804	*	8/1987	Smith	52/169.6
5,685,115	*	11/1997	Colfer	52/294 X
6,032,421	*	3/2000	Yamada	52/169.6 X

FOREIGN PATENT DOCUMENTS

539978	*	10/1941	(GB)	52/169.6

* cited by examiner

Primary Examiner—Richard Chilcot
(74) *Attorney, Agent, or Firm*—Banner & Witcoff, Ltd.

(57) **ABSTRACT**

A bunker construction is comprised of precast arch elements which form a semicircular roof of the bunker by engaging cast-in-place footings. A front and back plate cover the front and back of the enclosure defined by the arch elements. A crown element along the apex of the arch and footing blocks at the bottom sides of the arch along the footing facilitate a lightning protection system. Precast concrete panels form lateral sides of the front of the bunker construction and compacted earth coacts with steel stabilizing elements associated with the precast panels and the front plate of the bunker. The entire bunker exterior is covered with compacted earth thereby forming a bunker construction with enhanced structural integrity due to the mechanically stabilized earth in combination with the precast arch elements and front panel members.

11 Claims, 4 Drawing Sheets